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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,119	09/26/2003	Thomas Ferianz	1406/169	2564
25297	7590	09/16/2004	EXAMINER	
JENKINS & WILSON, PA 3100 TOWER BLVD SUITE 1400 DURHAM, NC 27707			TON, MY TRANG	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/674,119

Applicant(s)

FERIANZ, THOMAS

Examiner

My-Trang N. Ton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/30/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Burns et al (U.S Patent No. 6,683,498).

Burns et al in Figs. 1-4C a protection circuit including:

at least one amplifier circuit (302) with low output impedance for the signal amplification of the useful signal;

a protection impedance (412, 414) respectively connected downstream of the amplifier circuit (302) and serving to protect the amplifier circuit (302);

provision is respectively made of a feedback circuit (304, 306) for the frequency dependent signal feedback of the useful signal amplified by the amplifier circuit (302).

Regarding claim 2: the amplifier circuit (302) is an operation amplifier having an inverting signal input (-IN), a noninverting signal input (+IN) and a signal output (+OUT, -OUT) (Fig. 6).

Regarding claim 3: the protection impedance (412, 414) is connected between the signal output (+OUT, -OUT) of the operation amplifier (302) and a signal line connection for the connection of a signal line.

Regarding the limitation "the signal line is a telephone line..." recited in claim 4, it is inherent seen in col. 1, lines 18-22 (the variable gain amplifier is used in a cable modem).

Regarding claim 5: the driver circuit is of differential construction and has two symmetrically constructed amplifier circuit (416(1), 416(ii)), two symmetrical protection impedances (428, 430), and two symmetrically constructed feedback circuits (314(1), 314(ii)), see Fig. 4B.

Regarding claim 7: the signal feedback circuit (304, 306) feeds back high-frequency signal components of the useful signal amplified by the amplifier circuit (302) to the signal input of the amplifier circuit to a greater extent than low-frequency signal components of the useful signal amplified by the amplifier circuit (302), so that the output impedance of the driver circuit is reduced in a specific first frequency range up to a first limiting frequency which lies above the second limiting frequency of the useful signal.

The limitation recited in claim 8 is inherent seen in the protection circuit of Burns.

Regarding the limitation "the second frequency range is a voice signal band..." recited in claim 9, it is seen to define intended use. The protection circuit of Burns is capable of using as the voice signal band as recited. **In re Tuominen, 213 USPQ 89 (CCPA 1982) & In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974).**

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 7-9 are also rejected under 35 U.S.C. 102(b) as being anticipated by Mizutani et al (U.S Patent No. 5,650,652).

Mizutani et al disclose in Figs. 3-5 a protection circuit including:

Regarding claim 1:

at least one amplifier circuit (12) with low output impedance for the signal amplification of the useful signal;

a protection impedance (14, 13) respectively connected downstream of the amplifier circuit (12) and serving to protect the amplifier circuit (12);

provision is respectively made of a feedback circuit (feedback from 11a to IN(-)) for the frequency dependent signal feedback of the useful signal amplified by the amplifier circuit (12).

Regarding claim 2: the amplifier circuit (12) is an operation amplifier having an inverting signal input (IN(-)), a noninverting signal input (IN(+)) and a signal output (OT).

Regarding claim 3: the protection impedance (13, 14) is connected between the signal output (OT) of the operation amplifier (12) and a signal line connection for the connection of a signal line (11a).

Regarding the limitation "the signal line is a telephone line..." recited in claim 4, it seen to define intended use. The protection circuit of Mizutani et al is capable of using for connecting the telephone line as recited. **In re Tuominen, 213 USPQ 89 (CCPA 1982) & In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974).**

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Regarding claim 7: the signal feedback circuit (feedback from 11a to IN(-)) feeds back high-frequency signal components of the useful signal amplified by the amplifier circuit (12) to the signal input (IN(-)) of the amplifier circuit to a greater extent than low-frequency signal components of the useful signal amplified by the amplifier circuit (12), so that the output impedance of the driver circuit (OT) is reduced in a specific first frequency range up to a first limiting frequency which lies above the second limiting frequency of the useful signal.

The limitation recited in claim 8 is inherent seen in the protection circuit of Mizutani et al.

Regarding the limitation "the second frequency range is a voice signal band..." recited in claim 9, it seen to define intended use. The protection circuit of Mizutani et al is capable of using as the voice signal band as recited. **In re Tuominen, 213 USPQ 89 (CCPA 1982) & In re Pearson, 494 F.2d 1399, 181 USPQ 641 (CCPA 1974).**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al or Burns et al.

As stated above, every element of the claimed invention recited in above claims can be seen in the circuit of Mizutani et al. However, this reference does not specifically disclosed "the second frequency range is about 4KHz" as recited in claim 10.

Although Mizutani et al do not expressly state the frequency range is about 4KHz, this difference is not of patentable merit because it is notoriously well known in the art that different values for the frequency range can be selected in order to produce correspondingly different output values. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the frequency range is about 4 KHz in realizing the circuit of the Mizutani et al reference for the purpose of producing different output values when different values of the frequency is selected.

The same motivation applied to Mizutani et al is applied to Burns et al.

#### ***Allowable Subject Matter***

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Trang N. Ton whose telephone number is 571-272-1754. The examiner can normally be reached on 7:00 a.m - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 15, 2004



MY-TRANG NUTON  
PRIMARY EXAMINER